

Application Number 10/693,007
Preliminary Amendment

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A method for assembling a programmer for a medical device, the method comprising:

placing a first circuit board within a first housing member;

placing a second circuit board over the first circuit board;

placing a second housing member over the second circuit board to substantially enclose the first and second circuit boards;

loading instructions into memory on one of the first and second circuit boards via a loading port accessible via the second housing member; and

placing a plate member within the second housing member to cover the loading port, the first housing member, the first circuit board, the second circuit board, the second housing member and the plate member being thereby assembled in a stacked z-axis configuration.

Claim 2 (Original): The method of claim 1, further comprising placing one or more input buttons over the second circuit board prior to placing the second housing member.

Claim 3 (Original): The method of claim 1, further comprising placing the first circuit board, the second circuit board, the second housing member and the plate member using an automated placement technique.

Claim 4 (Original): The method of claim 1, wherein the first circuit board includes telemetry circuitry and the second circuit board includes a display and display circuitry.

Claim 5 (Original): The method of claim 4, wherein the display is a liquid crystal display.

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Claim 6 (Original): The method of claim 4, wherein the second circuit board includes control circuitry to drive the telemetry circuitry and the display circuitry.

Claim 7 (Original): The method of claim 6, wherein the control circuitry disables the display and the display circuitry during telemetry.

Claim 8 (Original): The method of claim 4, wherein the first circuit board comprises a bottom side substantially adjacent to the first housing member, the method further comprising mounting an internal antenna on the bottom side of the first circuit board and coupling the internal antenna to the telemetry circuitry.

Claim 9 (Original): The method of claim 8, wherein the internal antenna forms an aperture and the first housing member forms a molded area that defines a battery bay that extends at least partially into the aperture.

Claim 10 (Original): The method of claim 4, wherein the second circuit board comprises a top side substantially adjacent to the second housing member, the method further comprising mounting the display on the top side of the second circuit board and coupling the display to the display circuitry.

Claim 11 (Original): The method of claim 4, further comprising coupling an external antenna to the telemetry circuitry via a cable.

Claim 12 (Canceled).

Claim 13 (Original): The method of claim 1, wherein the loading port is a JTAG port.

Claim 14 (Original): The method of claim 1, further comprising selecting the instructions based on one of a plurality of different functional sets desired for the programmer.

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Claim 15 (Original): The method of claim 1, wherein the plate member includes a transparent portion sized to expose a display mounted on the second circuit board.

Claim 16 (Original): The method of claim 1, further comprising selecting the plate member from one of a plurality of plate members having different configurations based on a match between the configuration of the plate member and a type of medical device programmer being assembled.

Claim 17 (Original): The method of claim 16, wherein the plate member is printed with information to identify the programmer type.

Claim 18 (Original): The method of claim 1, wherein the plate member configuration comprises a size, a shape, a printed graphic, and a number of apertures to accommodate input buttons extending outward from the programmer.

Claim 19 (Original): The method of claim 1, wherein the second housing member includes a first aperture to expose a display mounted on the second housing member, and a second aperture to expose the loading port.

Claim 20 (Original): The method of claim 1, further comprising applying a programming device to the loading port via an aperture defined by the second housing member to load the instructions.

Claim 21 (Original): The method of claim 1, wherein the first circuit board includes a first electrical connector interface and the second circuit board includes a second electrical connector interface, the method further comprising coupling the first connector interface to the second connector interface to electrically connect the first circuit board to the second circuit board.

Claim 22 (Original): The method of claim 1, wherein placing the first housing member and the second housing member comprises forming an aperture for an infrared interface to receive

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changes to software executed by a processor within the programmer during an infrared communication session.

Claim 23 (Currently Amended): A programmer for a medical device comprising:

- a first circuit board placed within a first housing member;
- a second circuit board placed over the first circuit board;
- a second housing member placed over the second circuit board to substantially enclose the first and second circuit boards;
- a loading port accessible via the second housing member to load instructions into memory on one of the first and second circuit boards; and
- a plate member placed within the second housing member to cover the loading port,

wherein the first housing member, the first circuit board, the second circuit board, the second housing member and the plate member are assembled in a stacked z-axis configuration.

Claim 24 (Original): The programmer of claim 23, further comprising one or more input buttons placed over the second circuit board prior to the second housing member being placed.

Claim 25 (Original): The programmer of claim 23, wherein the first circuit board, the second circuit board, the second housing member and the plate member are stacked in substantially vertical alignment with one another.

Claim 26 (Original): The programmer of claim 23, wherein the first circuit board includes telemetry circuitry and the second circuit board includes a display and display circuitry.

Claim 27 (Original): The programmer of claim 26, wherein the display is a liquid crystal display.

Claim 28 (Original): The programmer of claim 26, wherein the second circuit board includes control circuitry to drive the telemetry circuitry and the display circuitry.

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Claim 29 (Original): The programmer of claim 28, wherein the control circuitry disables the display and the display circuitry during telemetry.

Claim 30 (Original): The programmer of claim 26, wherein the first circuit board comprises a bottom side substantially adjacent to the first housing member, the programmer further comprising an internal antenna mounted on the bottom side of the first circuit board and the internal antenna coupled to the telemetry circuitry.

Claim 31 (Original): The programmer of claim 30, wherein the internal antenna defines an aperture, the programmer further comprising a battery bay extending at least partially into the aperture.

Claim 32 (Original): The programmer of claim 31, wherein the first housing member includes a molded area that defines a battery bay adjacent the first circuit board.

Claim 33 (Original): The programmer of claim 32, further comprising an access opening in the first housing member to gain access to the battery bay for placement of batteries.

Claim 34 (Original): The programmer of claim 26, wherein the second circuit board comprises a top side substantially adjacent to the second housing member, wherein the display is mounted on the top side of the second circuit board and the display coupled to the display circuitry.

Claim 35 (Original): The programmer of claim 26, further comprising an external antenna coupled to the telemetry circuitry via a cable.

Claim 36 (Canceled).

Claim 37 (Original): The programmer of claim 23, wherein the loading port is a JTAG port.

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Claim 38 (Original): The programmer of claim 23, wherein the instructions are selected based on one of a plurality of different functional sets desired for the programmer.

Claim 39 (Original): The programmer of claim 23, wherein the plate member includes a transparent portion sized to expose a display mounted on the second circuit board.

Claim 40 (Original): The programmer of claim 23, wherein the plate member is selected from one of a plurality of plate members having different configurations based on a match between the configuration of the plate member and a type of medical device programmer being assembled.

Claim 41 (Original): The programmer of claim 40, wherein the plate member is printed with information to identify the programmer type.

Claim 42 (Original): The programmer of claim 40, wherein the plate member configuration comprises a size, a shape, a printed graphic, and a number of apertures to accommodate input buttons extending outward from the programmer.

Claim 43 (Original): The programmer of claim 23, wherein the second housing member includes a first aperture to expose a display mounted on the second housing member, and a second aperture to expose the loading port.

Claim 44 (Original): The programmer of claim 23, further comprising a first electrical connector interface included on the first circuit board and a second electrical connector interface included on the second circuit board, wherein the first connector interface couples to the second connector interface to electrically connect the first circuit board to the second circuit board.

Claim 45 (Original): The programmer of claim 23, wherein the first housing member and the second housing member form an aperture for an infrared interface to receive changes to software executed by a processor within the programmer during an infrared communication session.